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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Finnegan, Henderson, Farabow,
Garrett & Dunner, L.L.P.
1300 I Street, N.W.
Washington, DC 20005-3315

EXAMINER

DOLE, TIMOTHY J

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,471

Applicant(s)

HUDSON, STEVEN MARTIN

Examiner

Timothy J. Dole

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NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 13, 14 and 16-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-12, 15 and 25 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 13, 14 and 16-24 maintain withdrawn status pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 6-9, 11, 12, 15 and 25 rejected under 35 U.S.C. 102(b) as being anticipated by Lincklaen-Arriens et al.

Referring to claims 1, 12 and 25, Lincklaen-Arriens et al. discloses an anode monitoring system for monitoring the integrity of anodes (fig. 1 (3)) provided on a metallic structure (fig. 1 (1)) for cathodic protection purposes, the system comprising a signal circuit (fig. 1) having at least one signal path comprising the metallic structure and a selected anode whereby the characteristics of the signal circuit depend on the effectiveness of the selected anode, a signal generator (fig. 1 (4)) for generating and applying a signal to the signal circuit, and a central station (fig. 1 (10)) for monitoring signals on the signal circuit to thereby determine whether the selected anode is effective (column 2, lines 49-52).

Referring to claim 2, Lincklaen-Arriens et al. discloses the system as claimed in which the signal generator is arranged, when the selective anode is effective, to apply a signal to the signal circuit which is indicative of the effectiveness of the selected anode (column 5, lines 10-19).

Referring to claim 3, Lincklaen-Arriens et al. discloses the system as claimed in which the signal generator is disposed at the selected anode (fig. 1).

Referring to claim 6, Lincklaen-Arriens et al. discloses the system as claimed in which the signal circuit comprises an impedance element (fig. 3 (27)) provided in series between the selected anode and the metallic structure.

Referring to claim 7, Lincklaen-Arriens et al. discloses the system as claimed in which the impedance element is arranged to give a high impedance to time varying signals within at least one selected range of frequencies and a low impedance to signals outside the selected range (column 4, lines 11-52).

Referring to claim 8, Lincklaen-Arriens et al. discloses the system as claimed in which the impedance element is arranged so that the real part of the impedance is substantially zero (fig. 3 (27)).

Referring to claim 9, Lincklaen-Arriens et al. discloses the system as claimed, further comprising at least one of a transmitter (fig. 3 (28)) and a receiver connected across the impedance element and arranged to respectively transmit and receive signals across the impedance element (fig. 3).

Referring to claim 11, Lincklaen-Arriens et al. discloses the system as claimed, which comprises a plurality of signal paths (fig. 1) each comprising the metallic structure

and a respective anode (fig. 1 (3)) which is arranged so that signals associated with each anode are generated at different randomly determined times (column 4, lines 30-52).

Referring to claim 15, Lincklaen-Arriens et al. discloses an anode arrangement for use in an anode monitoring system (fig. 1), the arrangement comprising a cathodic protection anode (fig. 1 (3)) arranged for mounting on a metallic structure (fig. 1 (1)), an impedance element (fig. 3 (27)) having one terminal connected to the anode and another terminal arranged for connection to said metallic structure (fig. 3), and an electronics module (fig. 3 (28)) connected across the impedance element for at least one of transmitting and receiving signals (fig. 3).

4. Claims 1, 12 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by RU-C1-2006953.

Referring to claims 1, 12 and 25, RU-C1-2006953 discloses a device for remote controlling the serviceability of cathode protection stations, comprising a signal circuit formed by manifold 2 and grounding electrode 5 whereby the characteristics of the signal circuit directly depend on the effectiveness of anode circuit 3, 4 for cathode protection, signal generator 1 for generating and applying a signal to the signal circuit, and a data collection station for controlling signals on the signal circuit, the signals being indicative of the effectiveness of the anode circuits.

The same document teaches a method for remote controlling the serviceability of cathode protection stations, comprising the steps of:

- generating and applying a signal to a signal circuit formed by manifold 2 and grounding electrode 5 whereby the characteristics of the signal circuit directly depend on the effectiveness of anode circuit 3, 4 for cathode protection;
- controlling signals on the signal circuit at a data collection station, the signals being indicative of the effectiveness of the anode circuits.

Thus, the contribution of the technical solutions of claims 1 and 12 in the closest prior art consists in that the cathodic protection anode is used for grounding the signal circuit.

However, the present application does not disclose any advantages of the use of the cathodic protection anode for grounding the signal circuit, compared to the separate use of the grounding electrode and the anode. Moreover, said document teaches possible negative consequences likely to appear if the ground circuit is tied with the anode circuit.

The Applicant is invited to submit materials of theoretical or experimental nature, capable of proving a positive effect from the use of the cathodic protection anode for grounding the signal circuit.

If no positive effect can be obtained, the use of the cathodic protection anode for grounding the signal circuit will be treated as equivalent to the separate use of the grounding electrode and the anode. In this case the invention, as a whole, will not be recognized to comply with the "inventive step" patentability criterion.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lincklaen-Arriens et al. in view of Brown et al.

Lincklaen-Arriens et al. discloses the system as claimed except wherein the signal generator comprises a reference signal generator arranged to apply a reference signal to the signal circuit and an effective impedance varier for varying the effective impedance of the signal circuit in accordance with data to be transmitted wherein the reference signal generator is located at a position which is remote from the selected anode and the impedance varier is located adjacent the selected anode.

Brown et al. discloses an anode monitoring system comprising a reference signal generator (fig. 1 (26)) arranged to apply a reference signal to the signal circuit and an effective impedance varier (column 11, lines 7-8) for varying the effective impedance of the signal circuit in accordance with data to be transmitted (column 11, lines 9-11) wherein the reference signal generator is located at a position which is remote from the selected anode (fig. 1) and the impedance varier is located adjacent the selected anode (column 11, lines 7-8).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the generator and variable resistance of Brown et al. into the

system of Lincklaen-Arriens for the purpose of controlling the voltage of the circuit whereby maintaining a proper current for cathodic protection (column 5, lines 7-17).

Allowable Subject Matter

7. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed Sept. 9, 2003 have been fully considered but they are not persuasive.

9. In response to Applicant's argument with respect to claims 1 and 12, that "Lincklaen-Arriens et al. does not disclose at least one signal path comprising the metallic structure and a selected anode" and "characteristics of the signal circuit depend on the effectiveness of the selected anode" (page 12, lines 1-5), it should be noted that the anode directly affects the signal that is being produced on the metallic structure. When there is a decline in the activity of an anode due to depletion, the measurements at the reference electrode are greatly affected whereby leading to a change in the signal sent onto the metallic structure (column 2, lines 56-62 and column 6, lines 20-40). Therefore, since the state of the anode directly affects the signal sent on the metallic structure, the anode is considered to be part of the signal path.

10. In response to Applicant's argument with respect to claims 1 and 12, that Lincklaen-Arriens et al. does not disclose "a central station for monitoring signals on the signal circuit to

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thereby determine whether the selected anode is effective" (page 12, lines 5-7), it should be noted that the meter/recorder (10) is connected to the metallic structure at a readily accessible place (column 5, lines 26-27). Therefore the readily accessible place is considered to be the central station where monitoring occurs.

11. In response to Applicant's argument with respect to claim 15, that Lincklaen-Arriens et al. does not disclose at least "cathodic protection anode arranged for mounting on a metallic structure, an impedance element having one terminal connected to the anode and another terminal arranged for connection to said metallic structure, and an electronics module connected across the impedance element for at least one of transmitting and receiving signals" (page 14, lines 7-12), it should be noted that as shown in fig. 3, Lincklaen-Arriens et al. shows that the oscillatory circuit (27) is a variable capacitor, which is an impedance element. Also, the crystal (28), which is connected across the impedance element as seen in fig. 3, is responsible for transferring the vibrating signal to the metallic structure (column 6, lines 1-2). Therefore Lincklaen-Arriens et al. does disclose a cathodic protection anode arranged for mounting on a metallic structure, an impedance element having one terminal connected to the anode and another terminal arranged for connection to said metallic structure, and an electronics module connected across the impedance element for at least one of transmitting and receiving signals, as claimed.

12. In response to Applicant's argument with respect to claim 10, that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of

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ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, reasoning is found in rejection of the claim as shown, above.

Final Rejection

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

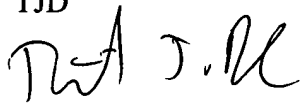
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Dole whose telephone number is 703-305-7396. The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 703-308-0750. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TJD



N. Le
Supervisory Patent Examiner
Technology Center 2800